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Veröffentlichungsversion / Published Version
Arbeitspapier / working paper

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:
SSG Sozialwissenschaften, USB Köln

Do Affluent Countries Face an Incomes-Jobs Tradeoff?

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01 / 10

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MPIfG Discussion Paper 01 / 10
ISSN 0944–2073
December 2001

Abstract

A commonly-held view suggests that affluent nations face a tradeoff between incomes and jobs. According to this view, in the United States pay for workers at the bottom of the earnings distribution (relative to those in the middle) is very low and government unemployment-related benefits (the "replacement rate") are stingy, but this facilitates the creation of lots of new jobs and encourages such individuals to take those jobs. The result is a high rate of employment and low unemployment. In much of Western Europe relative pay levels are higher for those at the bottom and benefits are more generous, but this is said to discourage job creation and to reduce the willingness of the unemployed to accept low-wage jobs. The consequence is low employment and high unemployment. I undertake a comparative assessment of this tradeoff view, based on pooled cross-section time-series analyses of 14 OECD countries in the 1980s and 1990s. The findings suggest that greater pay equality and a higher replacement rate do reduce employment growth in low-productivity private-sector service industries and in the economy as a whole. However, these effects are relatively weak. The results point to a variety of viable options for countries wishing to maintain or move toward a desirable combination of jobs and equality.

Zusammenfassung

Eine weit verbreitete Ansicht ist, dass in Industrienationen ein Zielkonflikt zwischen Einkommen und Beschäftigung besteht. Demzufolge sind die Löhne in den USA am unteren Ende der Einkommensverteilung im Vergleich zu den mittleren Einkommen sehr niedrig und gesetzliche Arbeitslosenbezüge ausgesprochen gering bemessen. Dies aber stimuliert sowohl die Schaffung neuer Arbeitsplätze als auch die Bereitschaft der Erwerbstätigen, sich mit niedrigen Einkommen zufrieden zu geben. Das Resultat ist eine hohe Beschäftigungs- und eine niedrige Arbeitslosenquote. In vielen westeuropäischen Ländern ist das Niveau der Niedrigeinkommen höher und sind Arbeitslosenbezüge großzügiger. Dies aber hemmt, nach Ansicht vieler, die Entstehung neuer Arbeitsplätze und die Bereitschaft von Arbeitslosen, niedrig bezahlte Arbeit anzunehmen. Das vorliegende Discussion Paper ist eine vergleichende Untersuchung dieser Zielkonflikt-Ansicht auf der Basis von kombinierten Querschnitts- / Zeitreihenanalysen in 14 OECD-Ländern in den 1980er- und 1990er-Jahren. Die Ergebnisse lassen den Schluss zu, dass eine gerechtere Einkommensverteilung und eine höhere Arbeitslosenvergütung ein geringes Beschäftigungswachstum zur Folge haben, sowohl in Bereichen der Wirtschaft mit geringem Produktivitätsausstoß (Dienstleistungssektor) als auch gesamtwirtschaftlich. Gleichwohl sind die Auswirkungen relativ geringfügig. Die Ergebnisse deuten überdies darauf hin, dass es eine Vielzahl von Lösungsmöglichkeiten zur Herstellung beziehungsweise Erhaltung eines ausgewogenen Verhältnisses von Beschäftigung und gerechter Einkommensverteilung gibt.

Contents

Abbreviations

AUS	Australia	JPN	Japan
AUT	Austria	NLD	Netherlands
BEL	Belgium	NZL	New Zealand
CAN	Canada	NOR	Norway
DEN	Denmark	PRT	Portugal
FIN	Finland	ESP	Spain
FRA	France	SWE	Sweden
DEU	Germany	CHE	Switzerland
IRE	Ireland	GBR	United Kingdom
ITA	Italy	USA	United States

1 Introduction

Between 1979 and 1998 the share of the working-age population that is employed increased from 68% to 75% in the United States but fell from 67% to 65% in Western Europe. The average unemployment rate in Western Europe jumped from 4.5% in 1979 to 8% in 1998, while in the United States it dropped from 6% to 4.5%. On the other hand, incomes for those at the bottom relative to the median are lower in the U.S. As of the mid-1990s, on average a Western European at the 10th percentile of the earnings distribution earned two-thirds (68%) as much as the median worker, whereas her / his American counterpart earned slightly less than half (48%) of the median. And a worker in Europe who becomes unemployed is likely to receive more generous unemployment compensation and related benefits. In the mid-1990s such benefits, often referred to as the "replacement rate," averaged about one-half (54%) of former earnings in Western Europe compared to one-quarter (27%) in the United States.[1]

To a number of observers, these differences suggest a tradeoff between incomes and jobs. In the "U.S. model," wages and unemployment benefits for those at or near the bottom of the labor market are relatively low. This makes companies eager to hire such workers and makes workers willing to accept such jobs. The U.S. labor market is thus characterized by extensive job creation and low unemployment, but also by low incomes for those at the bottom. In the "European model," higher relative wages at the low end of the distribution and a more generous replacement rate encourage companies to employ fewer workers and lead job seekers to increase their "reservation wage" (the wage at which they are willing to accept a job). Countries in Europe therefore feature relatively high incomes for those at the bottom – via earnings or benefits – but little job creation and high unemployment. Affluent countries, in this view, can choose good incomes or healthy employment performance, but they cannot have both. This argument has been articulated most prominently in several reports by the OECD (1994, 1996). Although by no means uncontested, it appears to hold considerable sway within academia (Becker 1996; Bertola / Ichino 1995; Blanchard / Wolfers 2000; Krugman

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I am grateful to Torben Iversen for insightful discussion on this issue and to Iversen, Alex Hicks, Lawrence Kahn, Bernhard Kittel, Antje Kurdelbusch, and Jonas Pontusson for helpful comments on an earlier draft. Portions of this paper were written while I was a visiting scholar at the Max Planck Institute for the Study of Societies (Cologne, Germany), where I received useful suggestions from a number of colleagues. I also thank Iversen and Stephen Nickell for allowing me to use some of their data.

1 "Western Europe" here refers to Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom. The replacement rates are for a worker at the 33rd earnings percentile. See the Appendix for definitions and data sources.

1996; Siebert 1997; Walwei 2001; Wilson 1996: 153) and in the popular media (*The Economist* 1997; Samuelson 1996; Wessel / Benjamin 1994).

This paper explores the merits of the tradeoff view via an analysis of the effects of pay equality and unemployment benefits on employment performance in 14 OECD countries in the 1980s and 1990s. The second section describes existing evidence and research on this issue. The third outlines the methods and data I use in my analysis. The fourth section presents and discusses the findings, and the fifth considers their implications for the viability of a high-equality, high-employment society.

2 Existing Evidence

A number of analysts have highlighted evidence that is inconsistent with the tradeoff view. First, cross-country bivariate analyses suggest no association between pay equality and high unemployment rates or low employment rates (Bazen 2000; Galbraith et al. 1999; Howell 2000). Yet bivariate relationships can be misleading; it is possible that a tradeoff between incomes and jobs exists but is only evident when other factors are held constant. Also, analyses of *changes* in employment performance may yield more support for the tradeoff notion than analyses that focus on levels. Second, although European wage structures tend to be more rigid than in the United States and raise the wages of those on the bottom, the unemployment and employment rates of low-skilled workers relative to high-skilled workers are no better in the U.S. than in most European nations (Glyn / Salverda 2000: 47; Howell 2000; Mishel et al. 2001: 402–405; Nickell / Bell 1996; Salverda et al. 2001). Yet the relevant comparison might instead be between younger and older workers, and European countries do tend to have higher relative unemployment rates among the youth than does the U.S. (Bertola / Ichino 1995: 20, 40). Third, cross-state differences in minimum wage levels in the United States have been found to have no adverse effects on minimum-wage employment (Card / Krueger 1995). However, this finding has been questioned (e.g., Neumark / Wascher 2000)

What evidence is there to support the tradeoff view? Proponents frequently point to the broad comparison between the United States and Western Europe described above. Yet this overlooks a variety of other possible causes of labor market outcomes, and it ignores the considerable diversity in unemployment and employment rates across European countries (see, e.g., Esping-Andersen / Regini 2000).

Recently, Torben Iversen and Anne Wren (1998) have sharpened the theoretical argument for a tradeoff and provided cross-country multivariate evidence to support it. Iversen and Wren suggest that pay equality is most likely to reduce growth of employment in private-sector consumer-oriented services – particularly wholesale and retail trade, restaurants, and hotels (ISIC 6) and community, social, and personal services (ISIC 9). Because productivity in these industries is low and difficult to increase,

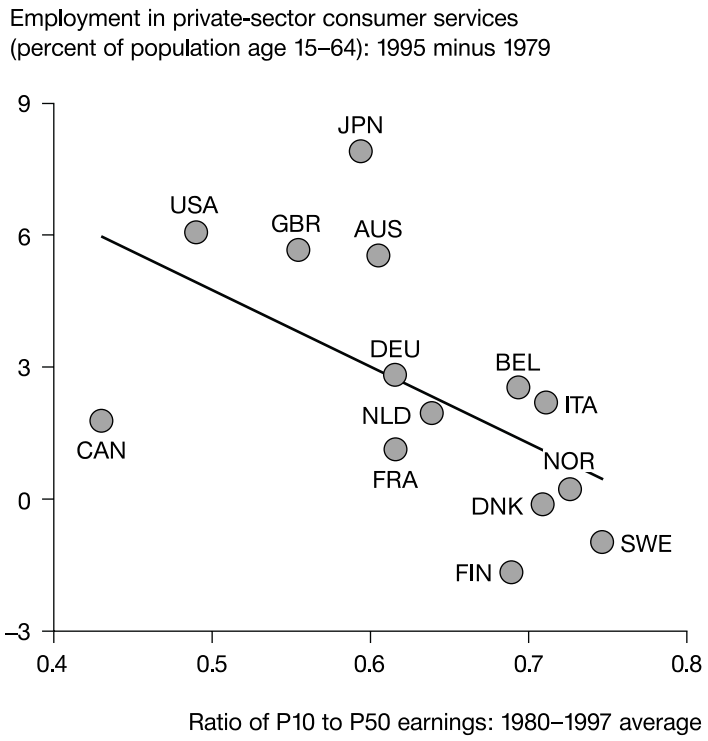
> the most important source of market-generated expansion of employment in services, apart from the effects of changing consumption patterns, becomes lower wages, which translate into cheaper prices and higher effective demand.
> (Iversen / Wren 1998: 512)

These industries, according to Iversen and Wren, have been a key source of job growth in affluent countries in the past several decades. Hence, pay equality is likely to have had an adverse impact on overall employment growth.

The scatterplots in Figures 1a, 1b, and 1c illustrate the plausibility of this argument. Pay equality is measured here as the ratio of earnings of a worker at the 10th percentile (P10) of the earnings distribution to those of a worker at the 50th percentile (P50). The employment rate (or ratio, as it is sometimes called) is the share of the working-age population that is employed – either in private consumer services or in total, depending on the chart. The incomes-jobs tradeoff is commonly presumed to apply to the period since the late 1970s, when demand for less-skilled employees began to decrease due to globalization, technological change, and / or other factors. In earlier decades pay equality was not an impediment to job creation (see Freeman 1995: 64; Howell 2000: 15; Siebert 1997). The vertical axis in each figure thus shows the *change* in employment since the late 1970s, measured as the employment rate for the most recent year for which data are available minus the rate in 1979. Figure 1a suggests a strong negative impact of pay equality on employment growth in private consumer-related services. (Unfortunately, data on private-sector employment in these industries are not available for Austria, Ireland, New Zealand, and Switzerland, nor since 1995 for any of the countries.) The only exception to this pattern is Canada. However, the pay equality data for Canada are very likely wrong; Canada's P10 / P50 ratio probably lies somewhere between those of the U.S. and the U.K., in which case it would fall fairly closely in line with the other nations.[2] Iversen and Wren did not

2 The OECD data suggest that Canada has the lowest earnings ratio among the countries analyzed here – lower even than the United States (see Figure 1a or 1c). However, data from the Luxembourg Income Study (LIS n.d.), which may be preferable to those of the OECD in terms of their cross-country comparability, suggest that Canada's earnings ratio is actually slightly higher than that of the U.S. (my calculations; see also Gottschalk and Smeeding 1997: 643). The LIS data are not used in the analy-

Figure 1a Pay Equality and Private Consumer Services Employment Growth



empirically investigate the second element of their hypothesized causal chain, nor the overall relationship between pay equality and total employment. But the patterns shown in Figures 1b and 1c are consistent with their argument. Figure 1b shows that countries with rapid job growth in private consumer services have tended to enjoy faster growth of total employment, and Figure 1c suggests an adverse impact of pay equality on total employment growth.

Slow growth in private service jobs can be offset by creation of public-sector service jobs. In the 1960s and 1970s the Scandinavian countries used sizeable expansions of public-sector employment to generate the highest aggregate employment rates among all affluent nations. Yet according to Iversen (1999: chap. 6), this strategy may have reached its limit. It depends upon relatively high tax rates, which have come under increasing strain due to economic pressures for fiscal austerity coupled with political resistance to heavy tax burdens (see also Esping-Andersen 1999: 153). Recent trends suggest that this may be correct. Among the

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ses here because they are available for far fewer years per country than the OECD data.

Figure 1b Private Consumer Services Employment Growth and Total Employment Growth

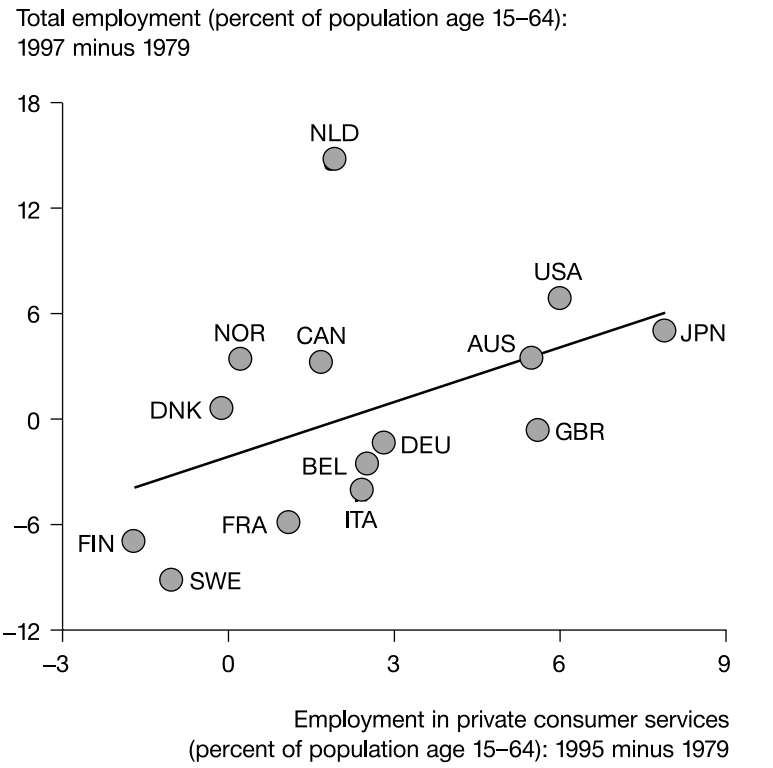
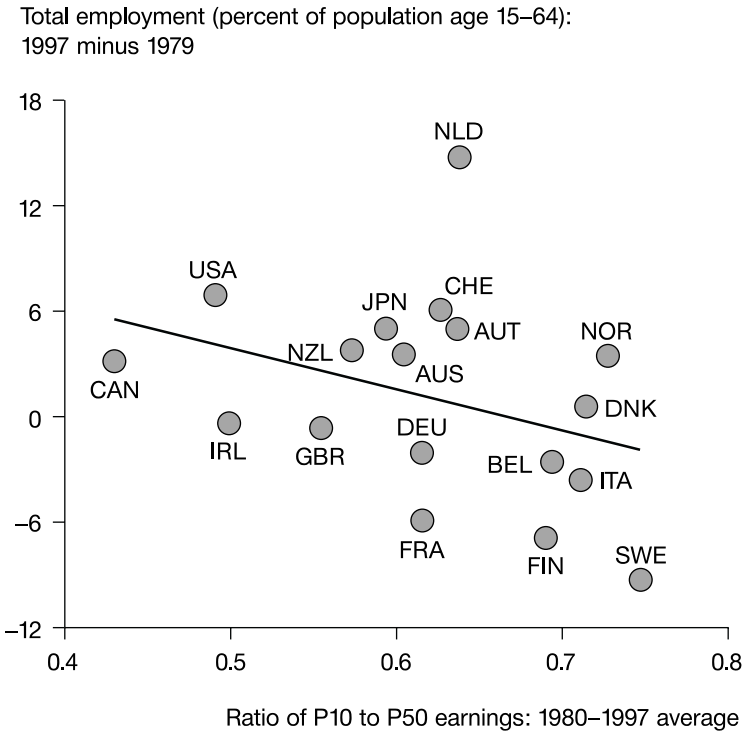


Figure 1c Pay Equality and Total Employment Growth



Scandinavian countries, only oil-rich Norway continued to expand public employment in the 1990s.

The Iversen-Wren argument is seemingly a compelling one. And their empirical analysis of employment growth in private consumer services in 14 OECD countries yields supportive results. Yet there are several reasons to question it. One is that the second component of their hypothesized causal chain – the notion that employment growth in private consumer-related services is a key determinant of aggregate employment performance – may be suspect. A recent OECD study (2000a: 110) of employment growth in the 1980s and 1990s finds that

> countries in which employment grew fastest tended to have above-average gains across all sectors. This suggests either that economy-wide factors have been the dominant determinants of international differences in employment growth or that the presence of one or a few especially dynamic sectors generates "spill-over" effects that raise growth rates in the rest of the economy.

If the first of these alternatives is true, then pay equality should be relevant for overall employment growth only if it has employment-reducing effects across a variety of sectors, which Iversen and Wren do not claim. They suggest, for example, that there is likely to be no such adverse impact in manufacturing, because higher productivity eases the cost constraint imposed by high wages. Their findings suggest that this is indeed the case (Iversen / Wren 1998: 531). If the second alternative is correct, pay equality could have an important effect on overall employment growth even if its direct impact were confined to private consumer-related services, but it would be necessary to show that job growth in private consumer services creates spillover effects which generate job growth in other sectors.

However, my focus in this paper is not on this second link in the hypothesized causal chain. Instead, it is on the first link: that between pay equality and growth of private-sector consumer services employment. There are a variety of reasons why high pay levels may not reduce the demand for labor. Efficiency wage theory, for instance, posits that employers willingly pay more in order to increase worker effort and commitment (Akerlof and Yellen 1986). Low-productivity service jobs are among the most likely to be characterized by low employee commitment and high turnover. Employers may therefore find it profitable to pay higher wages to the extent that doing so helps to remedy these problems. In this context, higher relative pay levels at the bottom of the labor market would not deter employment, and thus countries with greater pay equality would not be expected to have slower job growth in these low-productivity private-sector services.

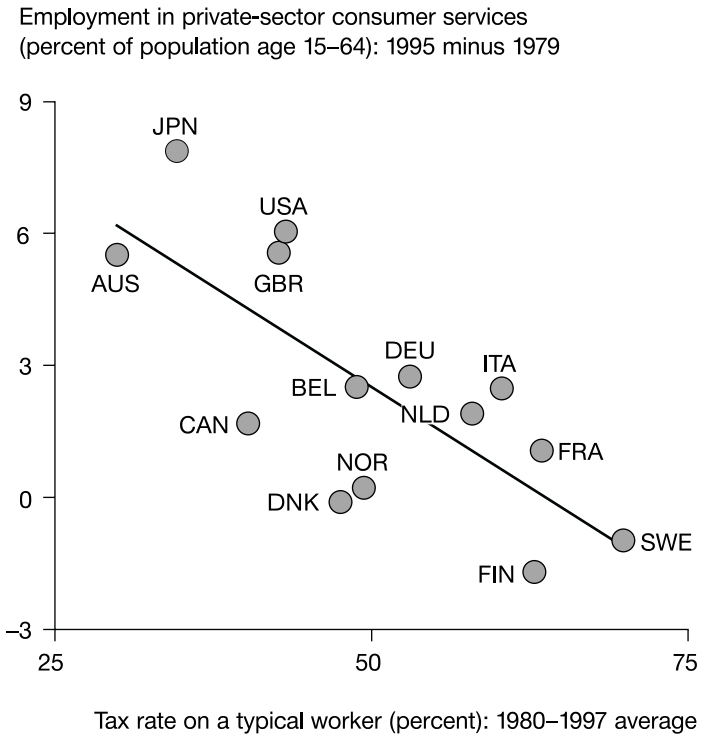
More generally, productivity levels in low-wage jobs may differ widely across countries due to differences in skills, work organization, and mechanization, among other factors. A relatively high P10 / P50 ratio therefore might simply be a function of relatively high productivity. If so, pay equality should not act as a deterrent to job growth.

Yet Iversen and Wren do find an adverse effect of pay equality on employment growth in private consumer services. The chief reason to question this finding is that the association they discover could be spurious. Their analysis did not control for a number of labor market policies and institutions that may affect employment performance, including active labor market policy, public employment, employment regulations, tax rates, the generosity of unemployment benefits, the duration of those benefits, wage setting coordination, and unionization (Alderson / Nielson 2001; Gustafsson / Johansson 1999; Hall / Franzese 1998; Kenworthy 2002; Korpi 1991; Nickell / Layard 1999; Rueda / Pontusson 2000; Scarpetta 1996; Scharpf 2000). Active labor market policy consists of expenditures on activities for the unemployed that are aimed at helping them return to work, such as training, assistance with job search, and employment subsidies. The creation of public-sector jobs is a direct employment-boosting policy. Employment regulations limit employers' flexibility in labor deployment, most notably in reducing their ability to lay off employees during a downturn, and may thereby discourage hiring. A higher tax rate on employees increases non-wage labor costs. More generous and long-lasting unemployment benefits reduce the incentives for unemployed workers to get a new job. Wage setting coordination and unionization may affect employment by reducing and increasing, respectively, the rate of wage increase. Most of these eight variables are moderately or strongly correlated with pay equality: the zero-order correlations across 14 OECD countries over the period 1980–97 are .74, .48, .69, .59, .46, .10, .63, and .67, respectively. Thus, the pay equality variable in Iversen and Wren's analysis may have in fact been capturing effects of some or all of these other labor market policies and institutions, rather than the effect of pay equality itself.

Consider Figure 2, which replicates Figure 1a but with pay equality replaced on the horizontal axis by the tax rate on a typical worker. The pattern looks strikingly similar. An ordinary least squares regression of 1979-to-1995 change in private-sector consumer services employment (Y) on pay equality and the tax rate yields the following estimates, with absolute t-statistics in parentheses:

$$Y = 14.31 - 6.49\ \textit{pay equality} - 0.15\ \textit{tax rate}$$
$$(0.90) \qquad (2.69)$$

Figure 2 Tax Rate and Private Consumer Services Employment Growth

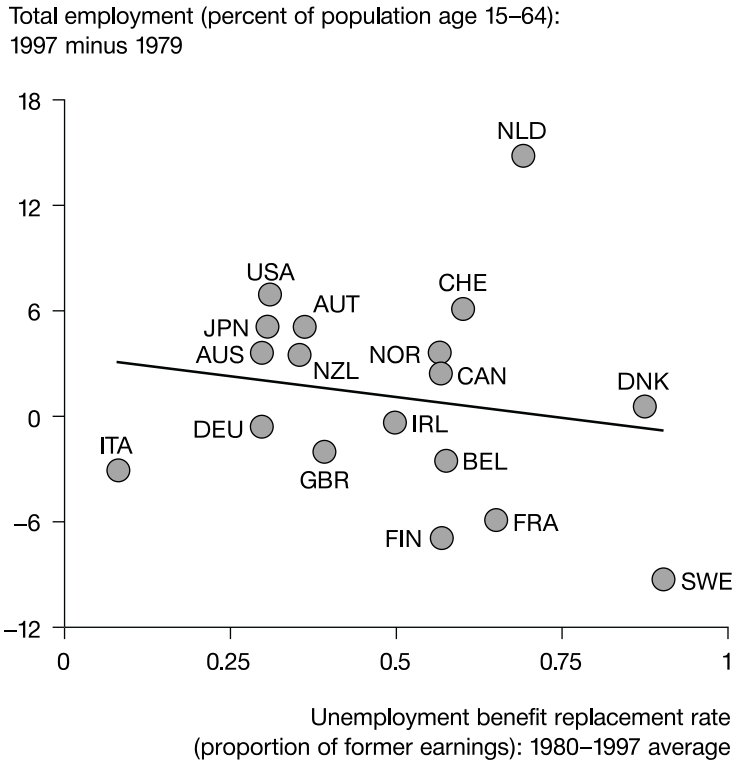


Both variables are negatively signed, as expected, but only the tax rate variable is statistically significant. The standardized coefficients are –.21 for pay equality and –.69 for the tax rate, indicating a much stronger impact for the latter than for the former. This regression is merely suggestive, of course. But what it suggests is that including the tax rate and other institutional features of labor markets in the analysis may yield a different conclusion than that reached by Iversen and Wren about the effect of relative pay levels on employment growth.[3]

What about the replacement rate? It certainly seems reasonable to suspect that the higher benefits are relative to former earnings, the higher unemployment will be. On the other hand, generous unemployment benefits may make employees and unions willing to accept weaker employment protection laws and practices, thereby contributing to healthier employment performance (Hemerijck and Schludi 2000: 220–221). Several studies have found a detrimental impact of the generosity of jobless benefits on unemployment and / or employment (Adsera /

3 An additional limitation of the Iversen and Wren study is that it extends only to the end of the 1980s. However, Iversen (2000) finds similar effects when the years 1990 through 1996 are added.

Figure 3 Replacement Rate and Total Employment Growth



Boix 2000; Blanchard / Wolfers 2000; Nickell / Layard 1999; OECD 1994: chap. 8). However, this effect is frequently found to be much less important than that of the duration of unemployment benefit eligibility (Freeman 1998: 8; Graafland 1996). Moreover, none of these studies controlled for relative pay levels, which seem likely to influence the degree to which unemployment compensation deters reentry into the work force. Here too, therefore, previous findings of an employment-reducing effect could potentially be a product of omitted variable bias. The scatterplot in Figure 3 gives no indication of any relationship between the replacement rate and aggregate employment growth at the bivariate level.

3 Method and Data

This paper offers a multivariate analysis of the effects of pay equality and unemployment benefit levels on variation in employment performance across 14 OECD countries in the 1980s and 1990s. All variables are described and their data sources listed in the Appendix. The dependent variables are private-sector con-

sumer services employment and total employment, both measured as a share of the working-age population. (Results with unemployment as the dependent variable are largely similar to those for total employment. These and other results not shown here are available from the author on request.) I use a pooled cross-section time-series regression design, in which each observation is a country-year. By increasing the number of observations, this permits inclusion of a larger number of control variables than is possible in a single-period cross-sectional analysis (such as Esping-Andersen 1999: chap. 7, 2000; Galbraith et al. 1999; Glyn / Salverda 2000; Howell 2000; Scharpf 2000: 83). I focus on the 1980s and 1990s – specifically, the years 1980–97. Data limitations prevent inclusion of more recent years. I include 14 of the "OECD-18" nations commonly used in cross-national analyses of this type. Austria, Ireland, New Zealand, and Switzerland are left out – in part to assure direct comparability with the Iversen and Wren (1998) study, but mainly because of data limitations. Data on employment in private-sector services are not available for these four countries, and data on pay equality are available for only a small number of years for several of them (1 year for Austria, 3 for Ireland, 6 for Switzerland). Due to gaps in the pay data and in the data for a few of the control variables, the 14 countries used in the analysis differ in the number of years for which they can be included: Australia (16), Belgium (11), Canada (10), Denmark (11), Finland (18), France (18), Germany (12), Italy (11), Japan (18), the Netherlands (16), Norway (14), Sweden (18), the United Kingdom (16), and the United States (18). The total number of observations is 207. Because the data on employment in private consumer services extend only through 1995, the analyses for it include only 189 observations.

Employment rates in affluent countries tend to be sticky over time. If pay equality and the replacement rate had little or no effect on labor market performance prior to the 1980s, as is commonly presumed, then the rates of employment with which countries entered the 1980s are exogenous in this analysis. I therefore include a regressor representing the average level of the dependent variable during 1974–79. Results without this variable – which focus straightforwardly on levels of employment in the 1980s and 1990s, rather than their change relative to the mid-to-late 1970s – are substantively similar (not shown here).

The two key independent variables are pay equality and the replacement rate. Data for both come from unpublished OECD databases. Pay equality is measured as the ratio of annual earnings at the 10th percentile of the earnings distribution to the 50th percentile. As noted earlier, these data are not available for all countries in all years. I use interpolated values where there is a gap of three years or less in a country's time series.[4] (This adds only 15 observations and does not affect the results of the analysis.) The replacement rate is the proportion of a

4 Rueda and Pontusson (2000) do the same.

worker's former earnings that is replaced by unemployment and related benefits – for a worker with earnings at two-thirds of the national median (i.e., the 33rd percentile) in the first year after losing the job.[5] The data are for the gross replacement rate; taxes on earnings or benefits are not taken into account. Some argue that the net replacement rate, which does factor in taxes, is a more appropriate measure (e.g., Esping-Andersen 2000: 79). Yet because of imperfect information, there is reason to think that that the gross replacement rate may be more likely to affect individuals' decisions about how quickly to reenter the work force. As an OECD study (1996: 42) has noted,

> calculating the net incomes of someone in and out of work, taking account of family allowances, earnings additions, peculiarities of the tax system, the interactions of benefits, and the timing of payments, requires knowledge of many pages of regulations. Small wonder, then, that surveys suggest people have very little idea of how much net income they might have were they to move from being employed to being unemployed or vice versa.

In any event, data on net replacement rates are not available over time.

A number of additional variables are included in the regressions as controls for the general economic environment and for labor market policies and institutions. Each has been found in previous studies to affect employment performance and is potentially correlated with pay equality and the replacement rate (Alderson / Nielson 2001; Gustafsson / Johansson 1999; Hall / Franzese 1998; Kenworthy 2002; Korpi 1991; Nickell / Layard 1999; Rueda / Pontusson 2000; Scarpetta 1996; Scharpf 2000).[6]

1. Growth of real GDP (average of *t*, *t*–1, and *t*–2). Faster economic growth is conventionally presumed to increase employment.

2. Trade (exports plus imports as a share of GDP; average of *t*, *t*–1, and *t*–2). Labor market outcomes in nations more heavily dependent upon trade may be

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5 Data are also available for the replacement rate for a worker with earnings at the median (50th percentile). The two replacement rate measures are highly correlated (r = .93), so the choice of which to use in the analyses makes little difference.

6 I also tried including female labor force participation (as a share of the working-age female population) as a control variable. It did not alter the findings for pay equality or the replacement rate in the regressions for employment in private-sector consumer services. This is consistent with the findings of Iversen (2000). When the female labor force participation variable was included in regressions for total employment, the pay equality coefficient often switched sign (though it was not statistically significant). However, the female labor force participation rate correlates at .85 with total employment, introducing severe multicollinearity problems. Since it is not clear in which direction the causality primarily runs – from growing women's labor force participation to growing employment, or the reverse – this variable is best left out of the total employment regressions.

influenced to a greater extent by trends in the international economy, and they may be adversely affected to the extent that such trade is with lower-cost and / or higher-productivity competitors.[7]

3. Real long-term interest rates (average of *t*, *t*–1, and *t*–2). Restrictive monetary policy in the form of high interest rates is likely to have adverse effects on employment.

4. Active labor market policy (logged). Expenditures on activities for the unemployed that are aimed at helping them return to work – such as training, assistance with job search, and subsidized employment – may increase employment.

5. Public employment (as a share of the population age 15 to 64). Higher levels of government employment are likely to contribute to higher overall employment.

6. Employment regulations. This index gauges the strictness of legislation on working time, fixed-term contracts, employment protection, minimum wages, and employees' representation rights on works councils and company boards. These types of regulations are commonly thought to weaken employers' willingness to hire additional employees.

7. Tax rate on a typical employee. This is a measure of the tax wedge between labor costs for firms and take-home pay for workers.[8] A higher wedge is expected to reduce employer demand for labor.

8. Duration of unemployment benefit eligibility. The longer one can receive unemployment compensation, the weaker the incentive to get a new job.[9]

9. Left government (average of *t*, *t*–1, and *t*–2). Leftist parties are widely presumed to be more likely to use various policy tools to reduce unemployment. I include this variable to capture employment-promoting policies not directly tapped by the other policy variables in the regressions.

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7 I also tried including a variable representing terms of trade (export prices divided by import prices) and an interaction between the trade and terms of trade variables, as per Hall and Franzese (1998). However, this interaction term turned out to be statistically irrelevant, and it did not alter the results for other variables.

8 I obtained similar results using an alternative tax measure suggested by Scharpf (2000: 81–82): social security contributions plus consumption taxes as a share of GDP.

9 It would be helpful to also control for the strictness of criteria used in deciding who is eligible to receive unemployment compensation, but no comparative measures exist. See Grubb (2000 / 01).

10. Wage setting coordination. Where wage setting is coordinated, externalities of large wage increases, such as unemployment, tend to be taken into account by union negotiators. This creates an incentive for wage restraint. By inducing such restraint and / or by encouraging governments to pursue unemployment-reducing measures in exchange for it, wage coordination may increase the employment rate.

11. Union density (percentage of the labor force unionized). Controlling for wage coordination, more extensive unionization is expected to generate greater wage increases and therefore lower employment.

I focus the analysis on the cross-country variation in labor market outcomes by including a set of year dummy variables. This is consistent with Layard and Nickell (1999), among others. The bulk of the variation in the pay equality and replacement rate variables is between countries rather than over time within countries. In addition, longitudinal variation in employment performance within affluent nations is attributable mainly to "exogenous shocks," such as falling demand for labor (due to technological change, globalization, and perhaps other factors), declining rates of productivity growth, and rising real interest rates (Blanchard / Wolfers 2000; Freeman 1998; Nickell / Layard 1999; Phelps 1994). Institutional factors such as relative pay levels and the replacement rate are thought to primarily affect variation across countries.

Following common practice in recent comparative political economy research, I estimate the models using ordinary least squares (OLS) with panel-corrected standard errors and a common-rho adjustment for AR(1) autocorrelation (Beck / Katz 1995). Substantively similar results were obtained using random-effects generalized least squares (GLS). A country fixed effects model cannot be used here because some of the key explanatory variables – such as employment regulations, the tax rate, the duration of unemployment benefits, and wage setting coordination, as well as pay equality and the replacement rate – vary little over time (Alderson / Nielsen 2001; Beck / Katz 2001; Traxler et al. 2001: 27–28).[10] A test for

10 Because they do not include the relatively time-invariant labor market policy and institution variables, Iversen and Wren use an error correction model and include country dummies. It might be thought that these dummies pick up the effects of the policies and institutions, but that is not the case if some of the variables have similar values across certain groups of countries while others do not, or if the variables vary somewhat (though not much) over time. Both apply here. In Iversen and Wren's analyses, the size of the pay equality coefficient was not affected by inclusion or exclusion of country dummies (1998: 527, fn. 46). In contrast, my findings suggest that the coefficient estimate *is* affected by the inclusion or exclusion of the labor market policies and institutions variables.

unit roots revealed no problem with non-stationarity in the two dependent variable measures.[11]

I conduct two types of sensitivity checks:

1. Extreme bounds. Since the "correct" model is not known with certainty, I re-estimate the regressions with all possible combinations of the control variables.

2. Jackknife. This consists of re-estimating the regressions with countries dropped one at a time. Outliers may be of particular concern for the period under consideration here, as Finland experienced a deep economic shock due to the sudden collapse of the Soviet market, Germany took on the burden of unification, Norway benefited from substantial oil revenues, the United States lowered its unemployment rate in part by incarcerating a larger share of its unskilled males, and so on (Smith 1999; Western / Beckett 1999).

4 Findings

The regression results are displayed in Table 1. Two models are shown for each employment measure. One includes only the growth, trade, and interest rate controls; the other adds the controls for labor market policies and institutions. The control variables perform largely as expected, though not all reach statistical significance in all models. Economic growth, coordinated wage setting, active labor market policy, and left government tend to be associated with better employment outcomes, while trade, interest rates, employment regulations, the tax rate, the duration of unemployment benefit eligibility, and unionization are associated with worse outcomes. Public employment appears to crowd out job growth in private-sector consumer services but boost aggregate employment growth. Employment levels in 1974–79 are strongly related to 1980s and 1990s levels. This partly accounts for the very large R^2s for the regressions, but even without this variable the R^2s are .80 or better.

11 The null hypothesis of nonstationarity in the Im-Pesaran-Shin test (see Im et al. 1997) was rejected at the .001 level for private-sector consumer services employment and at the .02 level for total employment.

Table 1 Regression Results: Employment Performance, 1980–1997

	Employment in Private-Sector Consumer Services		Total Employment	
	1	2	3	4
Pay equality	−.13*** [−8.45] (2.59)	−.07 [−4.70] (1.23)	−.20*** [−17.35] (3.33)	−.11* [−9.05] (1.61)
Replacement rate	−.07*** [−1.63] (2.21)	−.01 [−.11] (.17)	.10 [3.23] (1.61)	.16 [5.07] (2.62)
Growth of real GDP	.03*** (3.06)	.03*** (2.85)	.10*** (4.06)	.10*** (3.36)
Trade	−.04* (1.50)	−.05** (1.66)	−.06 (.76)	−.10* (1.52)
Real long-term interest rates	−.04*** (2.67)	−.05*** (2.99)	−.08*** (2.74)	−.15*** (4.23)
Active labor market policy		.02 (.90)		.14*** (2.43)
Public employment		−.11*** (2.52)		.14** (1.77)
Employment regulations		−.07* (1.42)		−.24*** (3.46)
Tax rate on workers		−.08* (1.24)		−.12* (1.55)
Unemployment benefit duration		−.04 (1.19)		−.17*** (3.96)
Left government		.05*** (4.58)		.06* (1.64)
Wage setting coordination		.01 (1.08)		.05* (1.24)
Union density		−.05* (1.33)		.05 (.63)
Average level of the dependent variable, 1974–1979	.84*** (24.36)	.77*** (19.26)	.77*** (8.24)	.55*** (6.37)
R^2	.93	.95	.96	.97
N	189	189	207	207
Pay equality	−11.12 to −3.73[a] −6.00 to −3.04[b]		−30.20 to −3.38[a] −17.91 to −3.21[b]	
Replacement rate	−2.92 to .40[a] −.52 to .51[b]		−1.86 to 8.56[a] 1.60 to 9.21[b]	

a Range of coefficients in regressions with all possible combinations of control variables (“extreme bounds”).
b Range of coefficients in regressions with countries omitted one at a time (“jackknife”).

Note: Standardized regression coefficients, with absolute *t*-values in parentheses. Unstandardized coefficients for the pay equality and replacement rate variables are shown in brackets. Standardized coefficients are calculated as the unstandardized regression coefficient multiplied by the standard deviation of the independent variable and divided by the standard deviation of the dependent variable. OLS estimates with panel-corrected standard errors and a common-rho adjustment for AR(1) autocorrelation. Results for year dummy variables are not shown. For variable descriptions and data sources see the Appendix.

* $p < .10$; ** $p < .05$; *** $p < .01$ (one-tailed tests)

Consistent with the finding of Iversen and Wren (1998: 527), the pay equality coefficient is negatively signed and statistically significant in the first regression for employment growth in private consumer services (column 1). But when the controls for labor market policies and institutions are added, the coefficient is no longer statistically significant (column 2). It is unclear how much we should make of this. It is possible, for instance, that the estimate for the pay equality variable is biased downward due to inclusion in the regression of several other variables that may themselves influence the distribution of earnings. Wage setting institutions and unionization levels have been linked with cross-country differences in earnings inequality (Alderson / Nielsen 2001; Lucifora 2000; Rueda / Pontusson 2000; Wallerstein 1999), and the pay equality variable I use here is fairly strongly correlated with each: r = .63 with wage coordination and .67 with union density. These variables could, therefore, be soaking up part of the effect of pay equality on employment growth. When these two variables are removed (not shown here), the metric coefficient for the pay equality variable increases in absolute value – though only slightly, from –4.70 to –5.25 – and it reaches statistical significance at the .10 level. As indicated at the bottom of the table, the extreme bounds and jackknife regressions yielded coefficients for the pay equality variable that were always negative and almost always significant at the .10 level or better. Thus, these results support the notion that there is a tradeoff between pay equality and employment growth in private-sector consumer services.

However, the estimated employment-reducing effect of pay equality is relatively *modest in magnitude*. The standardized coefficients indicate that pay equality is one of the more important determinants of job growth in private consumer services; yet it is only one among a large number of determinants, and its estimated effect is no stronger than the effects of employment regulations and the tax rate. The extreme bounds regressions provide a lower and upper bound for the estimated effect. The coefficients in column 1 and column 2 offer what is likely a more accurate lower and upper bound, since the column 1 regression includes none of the labor market policy and institution variables while the column 2 regression includes all of them. Collinearity with some of these variables almost certainly depresses the pay equality coefficient in the column 2 model somewhat. Yet leaving those variables out of the model is not necessarily more informative, since the pay equality variable is then permitted to capture part or all of the effects of the omitted variables.

Suppose we consider the best estimate of pay equality's true effect to be midway between the coefficients for the column 1 and column 2 regressions: approximately –6.50. This suggests that an increase of one standard deviation (.086) in the P10 / P50 earnings ratio reduced private-sector consumer services employment by about one-half of a percentage point in the 1980s and 1990s relative to

the mid-to-late 1970s. To get a better sense of the magnitude of the effect, consider two extreme cases, the United States and Sweden, which are frequently contrasted in discussions of this issue. Between 1979 and 1995 (the most recent year for which data are available), private-sector consumer services employment in the U.S. increased from 20% of the working-age population to 26%, while in Sweden it fell from 14% to 13%. The difference between these two countries was thus 7 percentage points (+6 for the U.S., –1 for Sweden). The U.S. had the second-lowest (after Canada) P10 / P50 earnings ratio during this period, averaging .49, while Sweden had the highest at .75. If we multiply the "best estimate" pay equality regression coefficient, –6.50, by the difference between these values for the pay equality variable, .26 (.75 minus .49), we can get an estimate of pay equality's contribution to the difference in employment growth in private consumer services between these two countries: 1.7 percentage points. When compared to the actual difference of 7 percentage points, this seems relatively small – not trivial, to be sure, but certainly not overwhelming. Differences between these two countries in a variety of factors – not just equality but also GDP growth, trade, interest rates, public employment, employment regulations, the tax rate, and government partisanship – appear to have contributed to the difference in job growth in low-productivity private-sector consumer services.

For total employment the findings are fairly similar. Again the coefficient for the pay equality variable is negatively signed. Here it remains statistically significant (at the .10 level) even with inclusion of the labor market institution and policy controls (column 4), and this result proved robust in extreme bounds and jackknife regressions. Here too, however, the magnitude of the estimated effect is not particularly large. Suppose we again take the midpoint between the coefficients in columns 3 and 4, approximately –13.0, as the best estimate of pay equality's true effect. This suggests that, on average, an increase of one standard deviation in the P10 / P50 earnings ratio reduced total employment by about 1.2 percentage points in the 1980s and 1990s relative to the mid-to-late 1970s. Once again the U.S. and Sweden represent extreme cases (if we disregard the Netherlands – see Figure 1c above), with the former experiencing an increase of 7 percentage points in total employment between 1979 and 1997 and the latter a decline of 9 percentage points. The regression estimates suggest that pay equality accounted for approximately 3.4 percentage points out of the total difference of 16. The standardized coefficients in column 4 indicate that pay equality has been a less important determinant of cross-country differences in aggregate employment growth than monetary policy, active labor market policy, public employment, employment regulations, the tax rate, and the duration of unemployment benefits.

These results, which suggest a rather modest employment-reducing effect pay equality, could potentially be misleading – an artifact of certain features of the

analysis. One possibility is that the effect has occurred only gradually. If so, analyzing the 1980s and 1990s together might hide its true magnitude. Yet when I ran the regressions for the 1990s only (not shown here), the coefficients for the pay equality variable suggested effects slightly *weaker*, rather than stronger, than those reported in Table 1.

Another possibility is that poor employment performance may increase earnings inequality. Reverse causality of this form would bias the regressions against finding an adverse effect of pay equality on employment. However, the effect of low employment or high unemployment on relative pay levels is somewhat ambiguous in theoretical terms. There clearly is reason to expect that a weak labor market will reduce the average rate of pay increase, since employees' bargaining leverage vis-à-vis employers is reduced. A weak labor market should also be associated with greater inequality of *income*, since a smaller share of the population is employed and thus has earnings. But whether *earnings* inequality will be greater when the labor market is weak depends on whether workers in the middle or those at the bottom of the earnings distribution experience greater loss of employment prospects. Historically, low-wage workers have tended to be hit harder, but that has not necessarily been the case in the past two decades. In the United States, for instance, nearly half of those who lost a job between 1980 and 1995 were white-collar employees (Uchitelle / Kleinfeld 1998). Recent cross-country empirical studies have found no effect of unemployment on either earnings inequality (Rueda / Pontusson 2000) or income inequality (Gustafsson / Johansson 1998). Thus, reverse causality seems unlikely to have affected my estimates of the impact of relative pay levels on employment performance.

It also is possible that the employment-reducing effect of pay equality is stronger in some countries than in others. In particular, we might reasonably suspect that in more liberal, market-oriented economies, such as the United States and the United Kingdom, employers' hiring decisions will tend to be more sensitive to labor costs. Other economies may feature better or more widespread institutional supports for worker commitment and for higher productivity – such as Germany's apprenticeship system and Japan's tradition of employment security and seniority-based pay structures (see, e.g., Aoki 1988; Soskice 1999). In such contexts high pay levels might have less impact on hiring. To test this possibility, I used a dummy variable with Belgium, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, and Sweden coded 0 and Australia, Canada, the United Kingdom, and the United States coded 1. I added this variable and an interaction term between it and the pay equality variable to the regressions (results not shown here). For employment growth in private consumer services the interaction term had the expected negative sign and was usually statistically significant at the .10 level or better, depending on the particular combination of control

variables included. This suggests that pay equality has a stronger employment-reducing impact in low-productivity services in the "market-liberal" Anglo countries than in Scandinavia, continental Europe, and Japan. For aggregate employment growth the interaction coefficient again generally had the expected sign but was seldom statistically significant.

What effect does the generosity of unemployment-related benefits have on employment growth? In the private consumer services regressions, the replacement rate coefficient is negative in both equations but does not reach statistical significance in the regression that includes the full set of controls (column 2). In a number of the extreme bounds regressions and several of the jackknife regressions the coefficient turned positive. Perhaps more importantly, even if benefit generosity does have an employment-reducing effect, it appears to be quite weak. An increase of one standard deviation (.233) is estimated to have reduced private consumer services employment by somewhere between one-twentieth and one-third of a percentage point in the 1980s and 1990s relative to 1974–79. For total employment the replacement rate variable yields an unexpected positive sign in both regressions, suggesting that any detrimental impact it may have on job growth in private consumer services does not adversely affect aggregate employment trends. This finding proved relatively robust to inclusion of various combinations of the control variables and to omission of individual countries. Interactions between the replacement rate and the "market-liberal economy" dummy variable yielded no statistically significant results.

5 A High-Equality, High-Employment Society?

Large-scale unemployment has been arguably the prime economic, social, and political issue in Western Europe over the past decade. Europe's jobs problem is frequently said to be a product of labor market regulatory "rigidities." While the institutional features of European labor markets are sometimes lumped together, it is important to distinguish among them. They are of five main types:

1. employment regulations regarding job protection, working time, and related matters;
2. the unemployment compensation system;
3. the tax wedge;
4. wage setting arrangements and their effects on real wage growth and on government policy choices;
5. high relative earnings for workers at the low end of the labor market.

The findings here suggest that portions of the conventional wisdom regarding the deleterious effects of labor market "rigidities" on employment are accurate. Specifically, more extensive employment regulations, a larger tax wedge, a longer period of eligibility for unemployment benefits, and higher unionization rates appear to have adverse effects on employment growth. On the other hand, to the extent wage coordination has an effect on employment performance, it tends to be a beneficial one.

The fifth "rigidity" – high relative earnings at the bottom of the labor market – has received perhaps the most attention of the five in policy discussions. Yet there has been only one prior multivariate cross-country empirical study on this issue (Iversen and Wren 1998), and it did not include controls for a variety of factors that influence employment performance and are correlated with pay equality. My analysis of employment patterns in 14 OECD countries during the 1980s and 1990s suggests that higher relative pay levels in low-wage jobs have indeed tended to reduce growth of low-productivity private-sector service employment and of overall employment. In other words, *there does seem to be a tradeoff*. However, the tradeoff is *a relatively mild one*. Those who have overestimated the extent of the tradeoff appear to have done so largely because they have attributed to pay equality what actually are the employment-reducing effects of a multitude of labor market policies and institutions.

What implications do these findings have for future labor market performance in affluent nations? Torben Iversen (1999: chap. 6) and Gøsta Esping-Andersen (1999) have suggested recently that such nations have two principal options if they wish to generate an ample supply of jobs. One is to reduce wages at the bottom of the earnings distribution in order to stimulate job creation in low-productivity private services. The other is to rely on expansion of public employment. Countries such as the United States and the United Kingdom have pursued the former strategy, while the Scandinavian nations have traditionally relied on the latter. However, both Iversen and Esping-Andersen contend that the public employment route is likely to encounter increasing economic pressure and political resistance, limiting countries' ability to sustain the high tax rates necessary to finance extensive public-sector job creation. Thus, in their view a solution to the jobs problem in Western Europe will likely require increased pay inequality (Esping-Andersen 1999: 173; Iversen 1999: 174; see also Hemerijck / Schludi 2000: 142, 213; Scharpf / Schmidt 2000: 312–313, 323, 333; Walwei 2001: 37–38).

My findings suggest a variety of alternatives to these two options. Pay equality is only one among a number of labor market policies and institutions that influence employment. Countries could just as effectively stimulate job growth by reducing employment regulations, tax rates, or the duration of unemployment compensation or by upgrading active labor market policy. That is to say, even if the public-

Figure 4a Pay Equality Over Time in Four Employment "Success Stories"

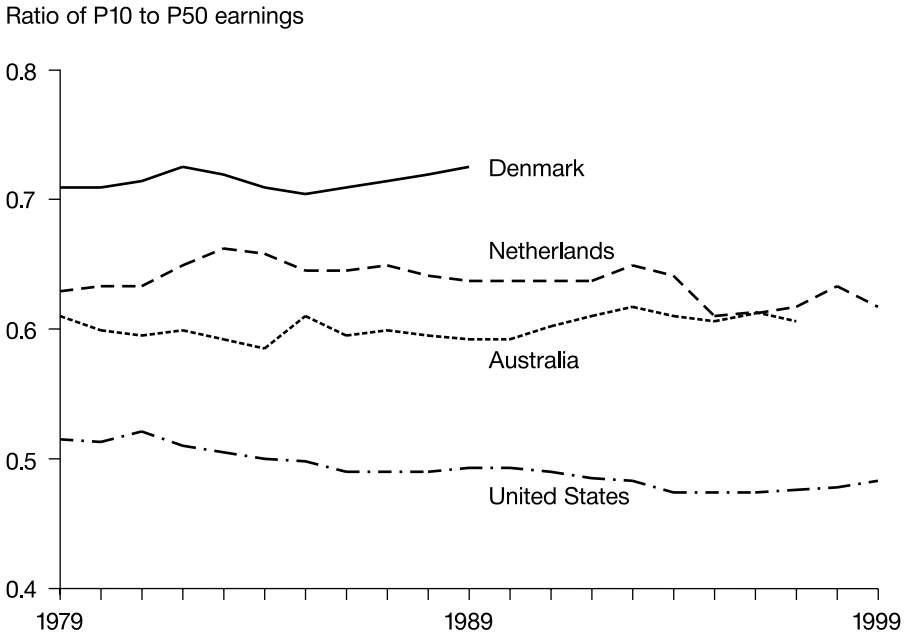
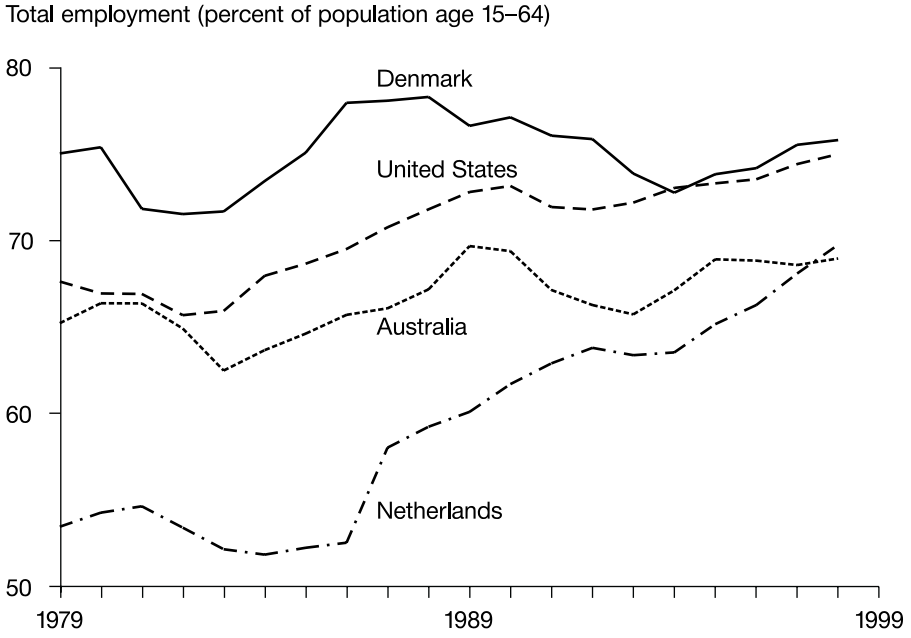


Figure 4b Employment Over Time in Four Employment "Success Stories"



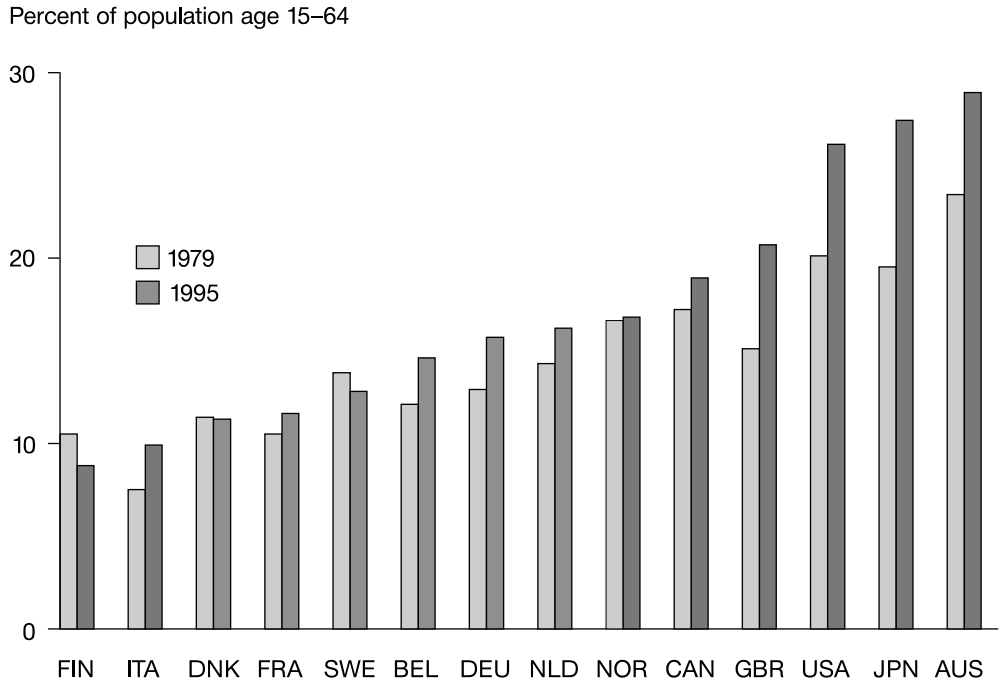
sector route to high employment is now effectively blocked, nations with a jobs problem could potentially go a long way toward alleviating it without having to reduce relative pay levels.

Denmark appears to be a useful illustration. Although aggregate employment in Denmark has increased only slightly since the late 1970s (see Figure 1b above or 4b below), that is largely because the country began this period with a very high employment rate. As of 1999, Denmark's employment rate of 77% was the third highest among the OECD-18 countries, behind only Switzerland and Norway. It has succeeded in maintaining a high level of employment despite no expansion of public-sector jobs since the early 1980s and without any notable reduction in its relatively high degree of pay equality (although no OECD data are available for the 1990s) or its extremely generous replacement rate. Figure 4a shows the trend over time in the P10 / P50 earnings ratio for Denmark along with several other countries I discuss below.

The sudden unwillingness to further expand public employment beginning in the early 1980s contributed to a jump in the unemployment rate toward the end of that decade. Then in the early 1990s Denmark was hit hard by the international economic recession, and employment dropped while unemployment increased even further. However, in 1994 and 1996 the Danish government introduced two major labor market reforms: it initiated several new active labor market measures to facilitate the transition from unemployment to a job, and it reduced the duration of unemployment benefit eligibility. Between 1994 and 2000, the Danish unemployment rate fell from 8.2% to 4.7% and the employment rate climbed from 73% to 77%. While the two policy reforms by no means deserve full credit for this improvement, a number of recent studies conclude that they have helped substantially (Auer 2000; Benner / Vad 2000; Björklund 2000; Madsen 1999). Denmark's high employment level also is aided by the country's comparatively easy job dismissal rules, which encourage hiring. Dismissals and employee turnover are more common in Denmark than elsewhere in Europe, and there is less long-term unemployment (Esping-Andersen 2000: 94–95; OECD 2000b: 220). Weak employment protection is politically sustainable in Denmark in part because of generous unemployment benefit levels (Benner / Vad 2000: 459; Madsen 1999: 76).

Germany is another instructive case, though not one of success. Germany's record of employment growth over the past two decades has been mediocre (see Figure 1b above), and unlike Denmark it began the period at a comparatively low level. Employment in private-sector consumer services in Germany is moderate compared to other affluent nations, as Figure 5 indicates. Excessive egalitarianism in pay could conceivably be the culprit; but relative to other countries in Europe, Germany's P10 / P50 ratio is not particularly high (see Figure 1a). A recent study by Richard Freeman and Ronald Schettkat (2000) gives further reason for skepticism about the importance of pay equality. Freeman and Schettkat find that low-

Figure 5 Employment in Private-Sector Consumer Services



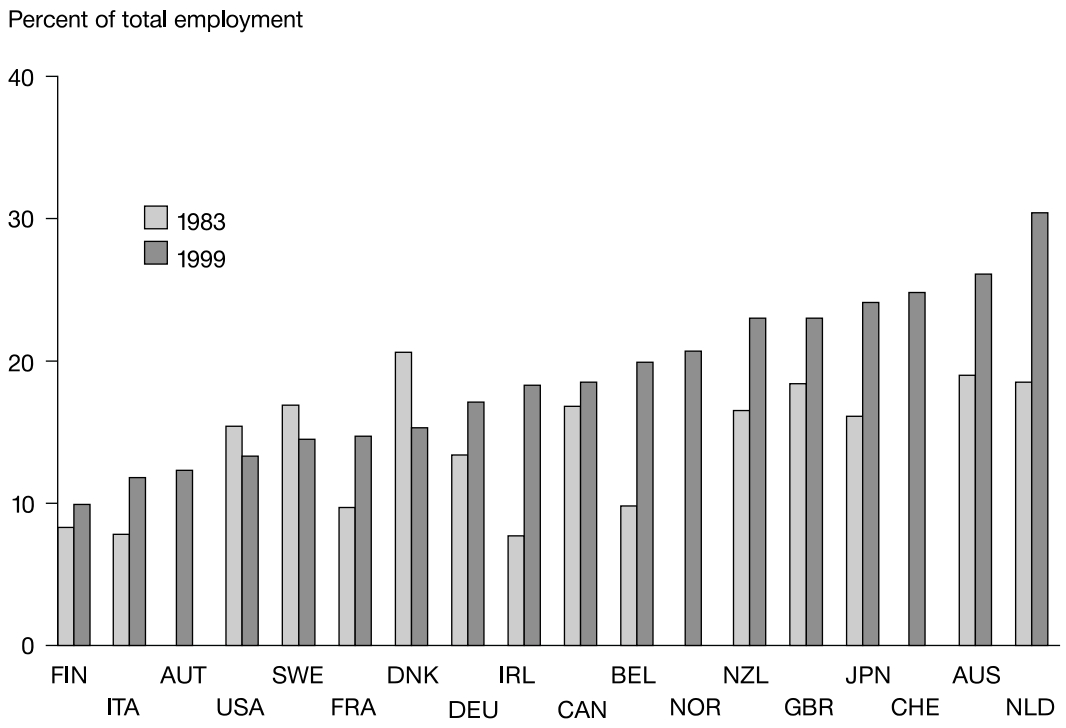
wage services (eating, drinking, and care facilities, retail trade, etc.) account for a large portion of the difference in aggregate employment rates between Germany and the United States. Yet they also find that, although Germany's overall wage structure is more egalitarian than that of the U.S., the ratio of wages in the lowest-paying service sectors to average wages is the same in the two countries (pp. 163–165). In other words, German employers in low-wage services do not have to pay higher relative wages than their American counterparts. So why are there fewer jobs in these industries in Germany than in the U.S.? The most important factor may be Germany's high payroll taxes (Manow / Seils 2000; Scharpf 2000; Streeck 2001). These taxes currently average 40% of gross wages – compared to 15% in the U.S. – with half paid by the employer and half by the employee. This creates a substantial wedge between a worker's actual take-home pay and the cost a firm bears in hiring the worker. Reducing these contributions, or eliminating them altogether by shifting to a social insurance system funded out of general revenues, might prove more effective than wage cuts in generating low-level service jobs.

An additional strategy is suggested by developments in the Netherlands over the past two decades. Pay equality and the replacement rate in the Netherlands are, respectively, fairly high and very high compared to other nations (see Figures 1a and 3 above). Dutch employment performance since the late 1970s has been unique in two respects: the country has had by far the fastest rate of employment growth among affluent nations, and it has achieved this very high rate of growth without a substantial increase in employment in private-sector consumer services

(see Figure 1b). Indeed, in terms of the latter, the Netherlands is in the middle of the pack (see Figure 5). The phenomenal rate of overall employment growth must be placed in context: the employment rate in the Netherlands was one of the lowest among OECD-18 countries at the end of the 1970s, so the improvement started from a very low base. Even so, it has been impressive. Unemployment has also declined substantially, though this is a bit less impressive due to the large number of people who are classified as "disabled" and therefore do not count as unemployed (Becker 2001; Gorter 2000).

As Figure 6 makes clear, underlying the rise in employment in the Netherlands has been a substantial increase in part-time employment. Part-time jobs have been an important source of employment expansion in a number of countries, but they have grown most rapidly in the Netherlands, climbing from 18% to 30% of total employment between 1983 and 1999. (Unfortunately, reliable part-time data are not available for many countries prior to 1983, and not even then for Austria, Norway, and Switzerland.) Indeed, in the 1980s and 1990s part-time jobs accounted for two-thirds to three-quarters of total job growth in the Netherlands, depending on the estimate (Hartog 1999; Salverda 1998). A large majority of Dutch part-time workers say they prefer not to have a full-time job (Auer 2000: 19; Salverda 1998), so there does not appear to be great cause for concern about underemployment.

Figure 6 Part-Time Employment



But what about earnings? Figure 4 shows that P10-to-P50 pay equality has declined somewhat in the Netherlands, particularly since 1994. Moreover, these OECD earnings data include only full-time workers. Since part-time employees tend to get paid less per hour than their full-time counterparts, there is reason to suspect that if part-timers were included in the figures we would find an even more substantial drop in earnings equality. Wiemer Salverda (1998) has calculated hourly wages at the 10th and 50th percentiles in the Netherlands with both full-time and part-time workers included. As it turns out, the over-time trend for these figures is no different from that for the full-time annual pay data, though Salverda's data extend only through the late 1980s. In addition, Joop Hartog (1999) has examined the industries in which there was an increase in employment, including part-time employment, between 1987 and 1995. He finds that "employment growth is really across the board of the entire wage distribution, with neither support for a marked dualization nor for a concentration of employment growth in low-wage pockets." The overall degree of pay equality in the Netherlands thus does not appear to have been adversely affected by the acceleration of part-time employment. And while pay equality has decreased somewhat, it remains a good bit above the U.S. level. The Dutch-style part-time or "one-and-a-half jobs" economy therefore seems to be another reasonably egalitarian option for affluent countries searching for a solution to the jobs problem.

Australia has pursued a somewhat similar course since the late 1970s. As Figure 6 shows, it has a comparatively high rate of part-time employment, and such jobs have grown quite rapidly. Like in the Netherlands, most of the gain in aggregate employment in Australia in the past two decades is due to increases in part-time jobs (see also Schwartz 2000a: 117). Unlike the Netherlands, Australia also has a high rate of employment in private-sector consumer services. Indeed, Figure 5 shows that its level is the highest among the 14 countries for which data are available, and jobs in these industries have been growing rapidly. As Figure 4a above indicates, Australia has achieved this relatively successful record of employment performance while maintaining a considerably more egalitarian pay structure than the United States. I am not aware of earnings distribution data for Australia that include part-timers, so it is impossible to be sure that the country's level of overall earnings equality is not substantially less than is indicated by these figures. Still, these data for full-time workers are encouraging.

Plainly, this brief discussion of a few national cases should be taken as merely suggestive. Data for recent years are sparse, and it is by no means clear that what "works" in one national context can be successfully implemented in another (Scharpf 2000; Schwartz 2000b). We need more research on developments in individual countries. It also is worth emphasizing that my findings here in no way imply that affluent countries *shouldn't* elect to permit a bit more earnings inequality or to reduce unemployment benefit levels somewhat. That is a political

choice – and in some contexts perhaps a more feasible and / or attractive one than, e.g., reducing tax rates or relying on part-time jobs to fuel employment growth. What the findings do suggest is simply that there appear to be other viable options for countries wishing to maintain or move toward a desirable combination of jobs and equality.

Appendix: Variable Descriptions and Data Sources

Employment in private-sector consumer services

Employment in private-sector consumer-oriented services – wholesale and retail trade, restaurants, hotels (ISIC 6) and community, social, and personal services (ISIC 9) – as a percentage of the population age 15 to 64. Source: Torben Iversen, Department of Government, Harvard University, calculated from OECD data; see Iversen and Wren (1998) for discussion. Range = 8.6 to 28.9. Mean = 16.3. Standard deviation (SD) = 5.6.

Total employment

Total employment as a percentage of the population age 15 to 64. Source: My calculations from data in OECD (2001). Range = 51.8 to 81.7. Mean = 67.2. SD = 7.4.

Pay equality

Ratio of annual earnings of a person at the 10th percentile of the earnings distribution to a person at the 50th percentile – pretax and pretransfer, for full-time year-round employees. Source: OECD (n.d.2). Range = .41 to .77. Mean = .63. SD = .09.

Replacement rate

Proportion of a worker's former earnings (pretax) that is replaced by unemployment compensation and related benefits – for a worker with earnings at two-thirds of the national median (i.e., the 33rd percentile) in the first year after losing the job. Source: OECD (n.d.1); see Martin (1996) for discussion. Range = .01 to .92. Mean = .51. SD = .23.

Growth of real GDP

Average of *t*, *t*–1 and *t*–2. Source: My calculations from data in OECD (2001). Range = –3.5 to 5.4. Mean = 2.4. SD = 1.5.

Trade

Exports plus imports as a percentage of GDP. Average of *t*, *t*–1 and *t*–2. Source: My calculations from data in OECD (2001). Range = 16.7 to 144.5. Mean = 57.3. SD = 30.5.

Real long-term interest rates

Average of *t*, *t*–1 and *t*–2. Source: My calculations from data in OECD (2001). Range = –1.0 to 9.2. Mean = 5.0. SD = 1.9.

Active labor market policy (log)

Expenditures on active labor market policy per unemployed person as a percentage of average production worker earnings. Source: Martin (2000 / 01: 86). Logged to reduce skewness. Range = 1.5 to 5.3. Mean = 3.0. SD = 0.8.

Public employment

Government employment as a percentage of the population age 15 to 64. Source: OECD (various years). Range = 4.4 to 26.1. Mean = 13.6. SD = 5.6.

Employment regulations

Index ranging from 0 to 10, with each country scored from 0 (lax or no legislation) to 2 (strict legislation) on each of five types of employment regulations: working time, fixed-term contracts, employment protection, minimum wages, and employees' representation rights (on works councils, company boards, etc.). Source: CEP (n.d.); see Nickell (1997) for discussion. Range = 0 to 7. Mean = 3.7. SD = 2.4.

Tax rate on workers

Sum of the average payroll, income, and consumption tax rates for a typical worker. Source: CEP (n.d.); see Nickell (1997) for discussion. Range = 28.7 to 70.7. Mean = 50.4. SD = 12.0.

Unemployment benefit duration

Length of eligibility for unemployment benefits, in years; 4 indicates infinite duration. Source: CEP (n.d.); see Nickell (1997) for discussion. Range = 0.5 to 4.0. Mean = 2.4. SD = 1.5.

Left government

Left party cabinet portfolios as a proportion of all cabinet portfolios. Average of *t*, *t*–1 and *t*–2. Source: Huber, Ragin, and Stephens (2001). Range = 0 to 1.00. Mean = .30. SD = .36.

Wage setting coordination

Index with 5 categories: 1 = Fragmented wage bargaining, confined largely to individual firms or plants. 2 = Mixed industry- and firm-level bargaining, with little or no pattern-setting and relatively weak elements of government coordination such as setting of basic pay rate or wage indexation. 3 = Industry-level bargaining with somewhat irregular and uncertain pattern-setting and only moderate union concentration; government wage arbitration. 4 = Centralized bargaining by peak

confederation(s) or government imposition of a wage schedule / freeze, without a peace obligation; informal centralization of industry- and firm-level bargaining by peak associations; extensive, regularized pattern-setting coupled with a high degree of union concentration. 5 = Centralized bargaining by peak confederation(s) or government imposition of a wage schedule / freeze, with a peace obligation; informal centralization of industry-level bargaining by a powerful, monopolistic union confederation; extensive, regularized pattern-setting and highly synchronized bargaining coupled with coordination of bargaining by influential large firms. Source: Kenworthy (2001). Range = 1 to 5. Mean = 3.1. SD = 1.5.

Union density

Employed union membership as a percentage of the labor force. Source: Ebbinghaus and Visser (2000); Golden, Lange, and Wallerstein (1997). Range = 8.6 to 88.6. Mean = 41.8. SD = 23.0.

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